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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/824,808

Filing Date: April 15, 2004

Appellant(s): ERNEST ET AL.

Robert H. Franz (42,553)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/18/2010 appealing from the Office action mailed 4/28/2010

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

.(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 14, 40, and 41 are pending

Claims 1 – 13, 15 – 19 and 42 – 43 were cancelled during prosecution.

Claims 14, 40 and 41 stand rejected.

Claims 14, 40 and 41 are being appealed.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

Al-Theneyan, Ahmed Hamdan, ("A Policy-Based Resource Brokering Environment for Computational Grids" (2002) Ph.D. dissertation, Old Dominion University, United States – Virginia; hereinafter AI-Theneyan)

| | | |
|--------------|-----------------|---------|
| 2002/0107723 | Benjamin et al. | 8-2002 |
| US 5361199 A | Shoquist et al. | 11-1994 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **14, 40 and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Al-Theneyan, Ahmed Hamdan, ("A Policy-Based Resource Brokering Environment for Computational Grids" (2002) Ph.D. dissertation, Old Dominion University, United States – Virginia; hereinafter AI-Theneyan) in view of Official Notice.

In respect to claims **14, 40 and 41**, Al-Theneyan discloses:

receiving by a grid computing control system one or more grid resource self-reports from one or more self-reporting computing resources in a grid computing environment; (see at least page 12, which discloses a Resource Monitor that keeps track of the current status of the resources and updates the Resource Repository, page 49 which discloses The Resource Monitor keeps track of the current status of the resources. It updates the Resource Repository and the Policy Enforcement Manager frequently with up-to-date information about the resources. The Resource Monitor supports different approaches for monitoring the status of the resources. This includes the Push Mode approach where the daemon that resides on the resource sends (i.e. self-reporting resource) the required information (i.e. self-reports) to the Resource Monitor (i.e. receiving by a grid computing control system one or more grid resource self-reports from one or more self-reporting Online Transaction Processing computing resources in a grid computing environment). See also page 64, which discloses Resource Monitoring);

receiving by the grid computing control system one or more job results from a grid resource job results manager system corresponding to jobs completed by the self- reporting computing resources; (see at least page 12, which discloses a Resource Monitor that keeps track of the current status of the resources and updates the Resource Repository, the Resource Repository maintains up-to-date information and historical performance information about all the available resources; see also page 65, which discloses the Job Monitor monitors the execution of the currently running jobs on the resources of the system (i.e. receiving by said grid computing control system one or more job results from a grid resource job));

analyzing by said grid computing control system said received job results and said received self-reports against client-driven Service Level Agreement performance requirements corresponding to said completed jobs (see at least page 66, which discloses SLA Monitoring Agent, which keeps monitoring the associated policies and takes appropriate actions in case of violations).

Al-Theneyan does not explicitly disclose determining one or more sub-ratings selected from at least one of (i.e. a group comprising of) percentage of jobs completed, percentage of jobs completed within specified time constraints, an interactiveness rating, and a cost compliance rating.

Examiner notes that determining ratings of actual performance versus expected performance for attributes such as turnaround time (i.e. disclose determining one or more sub-ratings selected from a group comprising percentage of jobs completed within specified time constraints), was Old and Well Known at the time of the invention (see at least Benjamin et al. (U.S. Patent Publication 2002/0107723), Tables 1 – 7 and ¶0050).

It would have been obvious to one of ordinary skill in the art to include in the SLA Monitoring Agent and Resource Repository of Al-Theneyan, old and well known ratings of actual performance versus expected performance for attributes, since the claimed invention is merely a combination of old elements, and one of ordinary skill in the art would have recognized that it would produce a predictable result of having historical performance statistics stored in the Resource Repository for later use by the Policy Enforcement Manager to the appropriate resource(s) that can match the client's request.

Al-Theneyan further discloses a Resource Repository, wherein the Resource Repository maintains up-to-date information and historical performance information about all the available resources (see at least page 12; see also pages 48 – 49, which discloses the Resource Repository maintains up-to-date information about all the available resources in the system. To support prediction, the Resource Repository keeps some historical performance information about the resources. For the sake of scalability and high availability, we can have distributed Resource Repositories with each having its own set of resources);

Al-Theneyan also does not explicitly disclose producing and updating a grid resource rating table having said sub-ratings rank-ordered according to a weighted analysis of said sub-ratings for each resource vendor.

Examiner notes that a table of vendors ranked according to certain criteria was Old and Well Known at the time of the invention (see at least Shoquist et al. (U.S. Patent 5,361,199), column 6, lines 50-59, FIG.10).

It would have been obvious to one of ordinary skill in the art to include in the SLA Monitoring Agent and Resource Repository of Al-Theneyan, old and well known ratings in a

table for each resource vendor ,since the claimed invention is merely a combination of old elements, and one of ordinary skill in the art would have recognized that it would produce a predictable result of having historical performance statistics stored in the Resource Repository in a table format, and by vendor, for later use by the Policy Enforcement Manger to the appropriate resource(s) that can match the client's request.

AI-Theneyan further discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements per the grid resource rating table. (see at least pages 7 and 8, which discloses Resource Allocation, which is responsible for allocating resources to various tasks of an application...Broker Controlled Allocation is when the resource brokering environment decides for the client based on some client specified constraints, and further discloses based on some historical performance information, the resource brokering environment should be able to predict the performance each resource is going to deliver at the time of the allocation (i.e. wherein said selection and assignment is performed according to historical performance against client- driven performance requirements); see also pages 12 - 13, that discloses the Resource Broker is the component that allocates resources based on client's requirements, and further discloses that the Resource Broker consults with the Policy Enforcement Manager, which then tries to find the appropriate matched resource(s) and returns the set to the Resource Broker (i.e. selecting by said grid computing control system an available grid resource server in said grid computing

environment from a plurality of available grid resource servers according to said grid resource; and assigning an Online Transaction Processing job to said selected grid resource server); see also page 62, which discloses PROBE employs a policy based approach for resource brokering that attempts not only to match the user's request with the right set of resources, but also ensure the guaranteed level of the allocation. When requested, the Policy Enforcement Manager finds the appropriate resource(s) that can match the client request and gives them to the Resource Broker; see also pages 171 - page 172, which discloses Predictor, which predicts the future performance of resources based on historical performance information that is provided by the Resource Repository. When the Policy Enforcement Manager tries to find the appropriate resource(s) that can match the client's request, it would rely on the summarized data being generated by the Predictor so that it can match the best resource(s). Prediction is going to help in minimizing SLA violations and thus reduce the resulting penalties a resource provider has to pay in case of violations. Therefore, Al-Theneyan discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements per the grid resource rating table).

In further respect to claim 41, Al-Theneyan discloses a 733 MHz PIII PC (page 137), (i.e. grid computing controller).

(10) Response to Argument

The Appeal Brief filed 10/18/2010, Appellant makes the following arguments:

(A) Failing to adequately support Official Notice after reasonable challenge from the Appellant, thus relying upon unsubstantiated and conclusory statements for the final rejections. Appellant further argues on pages 8 – 15 of the Appeal Brief that Appellant has traversed Official Notice in two manners, first since the term “Official Notice” does not appear anywhere else in the Office Action, and therefore it was unclear whether Benjamin and Shoquist were being officially included in the rejections under 35. U.S.C. 103(a) or not, and that by having previously argued (traversed) Examiner’s interpretation of Benjamin and Shoquist, that they had traversed the Official Notice.

(B) That following Appellant’s replies and challenges to these references (Benjamin and Shoquist) and their teachings, the Examiner demoted those references to mere evidence of old and well known art, that Examiner withdrew the references under challenge and that Examiner implicitly agreed with the Appellant’s arguments and withdrew the references.

(C) Appellant states (on pages 16 – 20) Appellant’s previous arguments in regards to A1-Theneyan:

“ A1-Theneyan Pg. 27, lines 1 - 2:

•.. A ranking mechanism, based on the application constraints, is used to select the best resource when multiple resources satisfy the request.

Please note that the "ranking mechanism" and "ranks" are not described in any further detail in A1-Theneyan.

A1-Theneyan Pg. 29, lines 15 - 16:

•.. The user selects a resource based on the availability at the job preparation time ...

Please note that we interpret "at the job preparation time" to mean "current", not historical.

A1-Theneyan P~. 47, line 9:

•.. A queuing algorithm selects the next job to schedule.

Please note that we interpret a "queuing algorithm" to be different than a selection algorithm using historical performance.

A1-Theneyan Pg. 48 lines 21 - 22:

- .. To support prediction, the Resource Repository keeps some historical performance information about the resources

Please note that "prediction" here is referring to "load prediction", which is not the same as selection of a resource based on historical performance:

A1-Theneyan Pg. 60 line 10:

- * resource load is predictable;

A1-Theneyan Pg. 85 lines 25 - 27:

- .. For example, in [105], all resources are assumed to be dedicated and their loads are predictable, and tasks are assumed to be profiled where resource usage can be estimated in advance•

A1-Theneyan Pg. 70 last paragraph:

- .. The Scheduler Agent uses a queuing algorithm to select the next job to schedule

A1-Theneyan Pg. 85 lines 1 -2:

- .. Scheduler Agent that in turns uses an underlying queuing algorithm to select the next job to schedule.

We believe the most conclusive and supporting citation from A1-Theneyan of our interpretation of their selection process or mechanism, however, appears in their section entitled "Future Work" (emphasis added by Applicant):

A1-Theneyan Pg. 169 lines 14 - 28:

8.2 Future Work

There are several areas of research that can be further explored

Also, for efficient scheduling of resources, it is more useful for PROBE to use an estimate of the performance in the near future rather than current performance. Based on historical performance information, PROBE should be able to predict the performance each resource is going to deliver at the time of the allocation. This could result in a more efficient scheduling of the resources. Thus, another direction for future research is to extend the model of PROBE given in this thesis to handle predictions”

Appellant then responds to Examiner's arguments on pages 19 – 20:

“(1) A1-Theneyan's Ranking Mechanism. The Examiner noted that this argument by Appellant was not clear as to its relevance to the issue at hand, whereas the term "ranking" is not in Appellant's claims and is not relied upon for the Examiner's rejections. Appellant's Response: Cited references are relevant for all that they teach, not just the portions upon which rejections are made. By considering the rest of A1- Thenayan's disclosure, such as their ranking process and disclosure, one comes to a more accurate interpretation of A1-Theyan's disclosure without prejudicing the interpretation with the knowledge of Appellant's claims. To ignore portions of A1-Theneyan's disclosure which would cast a different interpretation on the portions which are relied upon for the rejections is improper and an error in examination. Appellant respectfully submits that A1-Theneyan does not teach. "... said selection and assignment is performed according to historical performance" as proposed by the Examiner, but instead teaches job assignment by queuing and ranking, not rating, the resources according to availability, not according to historical performance.

(2) Resource Selection by Availability. The Examiner has disagreed in the final rejections with Appellant's interpretation of A1-Theneyan's selection of a resource "at the job preparation time" as meaning "according to current availability", not historical ability to meet job requirements. The Examiner stated that this was not relied upon in the rejection. Similarly to point (1) above, Appellant respectfully submits that selective use and interpretations of passages from A1-Theneyan in a manner which is not consistent with the rest of the A1-Thenyan disclosure is improper reading of Appellant's disclosure into the prior art. The Examiner's statement regarding A1-Theneyan's disclosure of a

"better alternative" provides no further relevant reasoning about how selection at job preparation time could somehow be considered to mean "according to historical performance".

(3) Queuing of Jobs and Load Prediction. With regard to Appellant's argument that queuing is not the same as selection according to historical performance, the Examiner has disagreed in the final rejections, and held that Appellant's arguments fail to meet 37 CFR § 1.11 l(b) for being a general allegation without specifics. Appellant respectfully submits that the many citations to both the A1- Theneyan disclosure and Appellant's own disclosure, with intervening arguments and statements, amounts to more than a general allegation.

Further, Examiner has taken a strange position regarding Appellant's point that A1- Theneyan uses a prediction of load in their queuing mechanism, but Appellant has claimed use of historical performance in pages 15 - 18 of the Appellant's reply to the third Office Action. Using the common definitions of "prediction" and "historical", it is plain to see that a prediction deals with the future, while history deals with the past. Instead, however, the Examiner has concluded in contravention to the ordinary meaning of "prediction" and "historical" the following:

Examiner notes that the section that Applicant refers to make the case that the prediction is 'load prediction', page 60, line 10, reads "Most of the existing efforts suffer from limitations such as:..., resource load is predictable". This is not evidence that 'prediction here is referring to 'load prediction', which is not the same as selection of a resource based on historical performance'.

Clearly, the term "resource load is predictable" means "load prediction", and the Examiner's interpretation that "prediction" is not referring to "load prediction" is unfounded and unsupported by the reference and by ordinary meanings of the terms."

(D). That since the prior art of Al-Theneyan is a doctoral thesis, and as such does not enjoy the presumption of enablement.

In respect to argument (A), Examiner respectfully disagrees.

According to the MPEP at 2144.03 [R-6]

"Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While "official notice" may be relied on, these circumstances should be rare when an application is under final rejection or action under 37 CFR 1.113. Official notice unsupported by documentary evidence should only be taken by the examiner **where the facts asserted to be well-known**, (emphasis added) or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). In *Ahlert*, the court held that the Board properly took judicial notice that "it is old to adjust intensity of a flame in accordance with the heat requirement." See also *In re Fox*, 471 F.2d 1405, 1407, 176 USPQ 340, 341 (CCPA 1973) (the court took "judicial notice of the fact that tape recorders commonly erase tape automatically when new audio information' is recorded on a tape which already has a recording on it"). In appropriate circumstances, it might not be unreasonable to take official notice of the fact that it is desirable to make something faster, cheaper, better, or stronger without the specific support of documentary evidence. Furthermore, it might not be unreasonable for the examiner in a first Office action to take official notice of facts **by asserting that certain limitations in a dependent claim are old and well known** (emphasis added) expedients in the art without the support of documentary evidence provided the facts so noticed are of notorious character and serve only to "fill in the gaps" which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. *In re Zurko*, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *Ahlert*, 424 F.2d at 1092, 165 USPQ at 421.

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the **prior art must always be supported by citation to some reference work recognized as standard in the pertinent art** (emphasis added). *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21. See also *In re Grose*, 592 F.2d 1161, 1167-68, 201 USPQ 57, 63 (CCPA 1979) (“[W]hen the PTO seeks to rely upon a chemical theory, in establishing a *prima facie* case of obviousness, it must provide evidentiary support for the existence and meaning of that theory.”); *In re Eynde*, 480 F.2d 1364, 1370, 178 USPQ 470, 474 (CCPA 1973) (“[W]e reject the notion that judicial or administrative notice may be taken of the state of the art. The facts constituting the state of the art are normally subject to the possibility of rational disagreement among reasonable men and are not amenable to the taking of such notice.”).

It is never appropriate to rely solely on “common knowledge” in the art **without evidentiary support in the record, as the principal evidence upon which a rejection was based.** (emphasis added). *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 (“[T]he Board cannot simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.”). While the court explained that, “as an administrative tribunal the Board clearly has expertise in the subject matter over which it exercises jurisdiction,” it made clear that such “expertise may provide sufficient support for conclusions [only] as to peripheral issues.” *Id.* at 1385-86, 59 USPQ2d at 1697. As the court held in *Zurko*, an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support. *Id.* at 1385, 59 USPQ2d at 1697”

In the non-final Office Action dated 9/25/2009, Examiner rejected the claims under 35 U.S.C. 103(a) as being unpatentable over Al-Theneyan, Ahmed Hamdan, (“A Policy-Based Resource Brokering Environment for Computational Grids” (2002) Ph.D. dissertation, Old Dominion University, United States – Virginia; hereinafter AI-Theneyan) in view of Official Notice., and then made statements regarding two facts as being Old and Well Known: first, that determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known, and second, that a table of vendors ranked according to certain criteria was Old and Well Known. As noted in the quoted section, MPEP 2144.03 [R-

6] (see highlighted portions), “**by asserting that certain limitations in a dependent claim are old and well known**”, Examiner was taking official notice. It would have been clear to one reading the action that the statements 'Old and Well Known' would indicate the statement that was being used as official notice. Further, as per MPEP 2144.03 [R-6] (see highlighted portions), “**prior art must always be supported by citation to some reference work recognized as standard in the pertinent art**”, and Examiner provided citations to support the facts that determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known, and, that a table of vendors ranked according to certain criteria was Old and Well Known, Benjamin et al. and Shoquist et al. respectively. Again, it would have been clear to one reading the action that these were being used as evidence to support that the asserted facts were Old and Well Known in the art.

Appellant goes on to argue that they did, in fact, traverse the Official Notice by saying, in the response dated 1/25/2010, “Regarding the rejections under 35 U.S.C. 103(a) over newly-cited Al-Theneyan in view of newly-cited Office Notice, we respectfully disagree with the Examiner’s conclusions...”. This was the extent to which Appellant mentioned the Official (“Office”) Notice. This does not rise to the level of a traversal of Official Notice. The MPEP states "To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art." (emphasis added) (see MPEP 2144.03). . . Therefore the Applicant has failed to adequately traverse the Examiner's use of Official Notice. The MPEP goes on to say "If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next

Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate." Appellant at no time questioned the stated fact that "that determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known, and, that a table of vendors ranked according to certain criteria was Old and Well Known". Further, Appellant at no time questioned the method that the official notice was taken, nor did Appellant express any confusion over what facts were being taken as Old and Well Known, nor did Appellant mention the 'unusual wording' (see Appeal Brief, page 10) of the passages, nor did Appellant express confusion over whether the references of Benjamin or Shoquist were being used as art under 35 U.S.C. 103 (a). Therefore, Appellant failed to adequately and timely traverse the Official Notice, and therefore the "determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known at the time of the invention ", and that "that a table of vendors ranked according to certain criteria was Old and Well Known at the time of the invention" is taken to be admitted prior art.

In respect to argument (B), Examiner respectfully disagrees.

Examiner would like to state that at no time did Examiner withdrew the references of Benjamin or Shoquist, nor did Examiner ever agree, either explicitly nor implicitly, with Appellant's arguments regarding the references. The references of Benjamin and Shoquist (and Main et al. U.S. 5,893,905) were used to finally reject the claims as presented in the amendment filed 2/2/2009 and 4/28/2009. Appellant then, on 8/7/2009 filed a Request for Continued

Examination, in which Appellant filed claims that were heavily amended. These amendments therefore necessitated new grounds of rejection, and Examiner rejected them using Al-Theneyan, Ahmed Hamdan, ("A Policy-Based Resource Brokering Environment for Computational Grids" (2002) Ph.D. dissertation, Old Dominion University, United States – Virginia; hereinafter AI-Theneyan) in view of Official Notice. A new grounds of rejection based on an amendment is not the same as agreeing with Appellant's arguments regarding the references, nor is it the same as withdrawing the references. The references of Benjamin and Shoquist (and Main et al. U.S. 5,893,905) would still reject the claims as submitted on 2/2/2009. As further evidence that Examiner did not withdraw the references nor agree with Appellant, Examiner responded to Appellant's arguments in regards to the Benjamin reference in the Non Final Office Action dated 9/25/2009. Further, Appellant's arguments, shown in Appeal Brief on pages 13 and 14, reciting arguments made on 2/2/2009 and 8/7/2009, are not related to, nor do they argue against, the statement that ' that determining ratings of actual performance versus expected performance for attributes such as turnaround time' was Old and Well Known, nor that Benjamin failed to disclose this fact. Further, in regards to Shoquist, Appellant never explicitly argued any features regarding Shoquist in any response to an action. Therefore, Appellant never argued that Shoquist failed to show that a table of vendors ranked according to certain criteria was Old and Well Known.

In summary to the response to arguments (A) and (B), Appellant failed to adequately and timely traverse the Official Notice that "that determining ratings of actual performance versus expected performance for attributes such as turnaround time was Old and Well Known, and, that a table of vendors ranked according to certain criteria was Old and Well Known", nor did

Appellant question the method that the Official Notice was taken. Examiner made a statement of that certain facts were Old and Well Known in the art at the time of the invention, and then submitted evidence in the form of the Benjamin and Shoquist references to support this fact. Further, in Appellant's further arguments that state that Appellant' traversed the Official Notice, Appellant acknowledges that Appellant knew what was being taken as Old and Well Known, and further acknowledged that Benjamin and Shoquist were being used as evidence of the Official Notice. It is unclear, then, how Appellant argues confusion what was meant by the statement "Old and Well Known", and at the same time, argues that they did realize that "Old and Well Known" was the official notice, and that they had already traversed it by previously having argued the supporting references.

In respect to Appellant's arguments (C), Examiner will reply to Appellant's responses /Arguments 1 – 3/.

1). Applicant stated / argued:

"In reference to A1-Theneyan Pg. 27, lines 1 - 2:

•.. A ranking mechanism, based on the application constraints, is used to select the best resource when multiple resources satisfy the request.

Please note that the "ranking mechanism" and "ranks" are not described in any further detail in A1-Theneyan."

The Examiner noted that this argument by Appellant was not clear as to its relevance to the issue at hand, whereas the term "ranking" is not in Appellant's claims and is not relied upon for the Examiner's rejections.

Appellant's Response: Cited references are relevant for all that they teach, not just the portions upon which rejections are made. By considering the rest of A1- Thenayan's

disclosure, such as their ranking process and disclosure, one comes to a more accurate interpretation of A1-Theyan's disclosure without prejudicing the interpretation with the knowledge of Appellant's claims. To ignore portions of A1-Theneyan's disclosure which would cast a different interpretation on the portions which are relied upon for the rejections is improper and an error in examination. Appellant respectfully submits that A1-Theneyan does not teach. "... said selection and assignment is performed according to historical performance" as proposed by the Examiner, but instead teaches job assignment by queuing and ranking, not rating, the resources according to availability, not according to historical performance."

Examiner respectfully disagrees. In regards to the limitation "said selection and assignment is performed according to historical performance", Examiner cited at least pages 7 and 8, which discloses Resource Allocation, which is responsible for allocating resources to various tasks of an application. [The] Broker Controlled Allocation is when the resource brokering environment decides for the client based on some client specified constraints, and further discloses based on some historical performance information, the resource brokering environment should be able to predict the performance each resource is going to deliver at the time of the allocation. See also pages 12 - 13, that discloses the Resource Broker is the component that allocates resources based on client's requirements, and further discloses that the Resource Broker consults with the Policy Enforcement Manager, which then tries to find the appropriate matched resource(s) and returns the set to the Resource Broker (i.e. selecting by said grid computing control system an available grid resource server in said grid computing environment from a plurality of available grid resource servers according to said grid resource;

and assigning an Online Transaction Processing job to said selected grid resource server); see also page 62, which discloses PROBE employs a policy based approach for resource brokering that attempts not only to match the user's request with the right set of resources, but also ensure the guaranteed level of the allocation. When requested, the Policy Enforcement Manager finds the appropriate resource(s) that can match the client request and gives them to the Resource Broker; see also pages 171 - page 172, which discloses Predictor, which predicts the future performance of resources based **on historical performance information** that is provided by the Resource Repository. When the Policy Enforcement Manager tries to find the appropriate resource(s) that can match the client's request, it would rely on the summarized data being generated by the Predictor so that it can match the best resource(s). Prediction is going to help in minimizing SLA violations and thus reduce the resulting penalties a resource provider has to pay in case of violations. Therefore, Al-Theneyan discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements per the grid resource rating table.

Appellant points to page 27, lines 1 – 2, which discloses “A ranking mechanism, based on the application constraints, is used to select the best resource when multiple resources satisfy the request”, and then argues that “but instead teaches job assignment by queuing and ranking, not rating, the resources according to availability, not according to historical performance”. As Appellant stated above, “Cited references are relevant for all that they teach, not just the portions

upon which rejections are made". The portion cited by Appellant, page 27, lines 1 – 2, are under chapter 2, "RELATED WORK", 2.3.1 "Condor"; this citation is in regards to a DIFFERENT SYSTEM named Condor, and is not relevant to the invention, PROBE, disclosed in the reference. Therefore, as disclosed in the rejection, A1-Thenyan discloses subsequently selecting by the grid computing control system an available grid resource server in the grid computing environment from a plurality of available grid resource servers according to the grid resource rating table; and assigning a subsequently requested job to the selected grid resource server wherein the selection and assignment is performed according to historical performance against client-driven performance requirements.

(2). In response to Appellant's statement / argument:

"A1-Thenyan Pg. 29, lines 15 - 16: The user selects a resource based on the availability at the job preparation time ...Please note that we interpret "at the job preparation time" to mean "current", not historical.

Resource Selection by Availability. The Examiner has disagreed in the final rejections with Appellant's interpretation of A1-Thenyan's selection of a resource "at the job preparation time" as meaning "according to current availability", not historical ability to meet job requirements. The Examiner stated that this was not relied upon in the rejection. Similarly to point (1) above, Appellant respectfully submits that selective use and interpretations of passages from A1-Thenyan in a manner which is not consistent with the rest of the A1-Thenyan disclosure is improper reading of Appellant's disclosure into the prior art. The Examiner's statement regarding A1-Thenyan's disclosure of a

"better alternative" provides no further relevant reasoning about how selection at job preparation time could somehow be considered to mean "according to historical performance"."

Again, Examiner respectfully disagrees. Again, as Appellant stated above "that selective use and interpretations of passages from A1-Theneyan in a manner which is not consistent with the rest of the A1-Theneyan disclosure is improper ". Examiner again notes that this section, pg. 19, lines 15 – 16, is under the heading Chapter 2, "RELATED WORK" 2.4.2 "UNICORE", and is in reference to a DIFFERENT SYSTEM called UNICORE, and is included in the works to show why PROBE is a better alternative (page 16, lines 16 and 17) and is not relevant to the invention, PROBE, disclosed in the reference. Further, Examiner did not rely upon this disclosure in the prior rejection. Examiner relied on pages 7 and 8, and further pages 12 - 14, page 62 and pages 171 -172. See also at least page 12, which discloses a Resource Monitor that keeps track of the current status of the resources and updates the Resource Repository, the Resource Repository maintains up-to-date information **and historical performance information** about all the available resources; see also page 65, which discloses the Job Monitor monitors the execution of the currently running jobs on the resources of the system.

(3). In response to Appellant's statement / argument:

"A1-Theneyan Pg. 47, line 9:

- .. A queuing algorithm selects the next job to schedule.

Please note that we interpret a "queuing algorithm" to be different than a selection algorithm using historical performance.

A1-Theneyan Pg. 48 lines 21 - 22:

- .. To support prediction, the Resource Repository keeps some historical performance information about the resources

Please note that "prediction" here is referring to "load prediction", which is not the same as selection of a resource based on historical performance:

A1-Theneyan Pg. 60 line 10:

- * resource load is predictable;

A1-Theneyan Pg. 85 lines 25 - 27:

- .. For example, in [105], all resources are assumed to be dedicated and their loads are predictable, and tasks are assumed to be profiled where resource usage can be estimated in advance•

A1-Theneyan Pg. 70 last paragraph:

- .. The Scheduler Agent uses a queuing algorithm to select the next job to schedule

A1-Theneyan Pg. 85 lines 1 -2:

- .. Scheduler Agent that in turns uses an underlying queuing algorithm to select the next job to schedule.

Queuing of Jobs and Load Prediction. With regard to Appellant's argument that queuing is not the same as selection according to historical performance, the Examiner has disagreed in the final rejections, and held that Appellant's arguments fail to meet 37 CFR § 1.11 1(b) for being a general allegation without specifics. Appellant respectfully submits that the many citations to both the A1- Theneyan disclosure and Appellant's own disclosure, with intervening arguments and statements, amounts to more than a general allegation.

Further, Examiner has taken a strange position regarding Appellant's point that A1-Theneyan uses a prediction of load in their queuing mechanism, but Appellant has claimed use of historical performance in pages 15 - 18 of the Appellant's reply to the third Office Action. Using the common definitions of "prediction" and "historical", it is

plain to see that a prediction deals with the future, while history deals with the past.

Instead, however, the Examiner has concluded in contravention to the ordinary meaning of "prediction" and "historical" the following:

Examiner notes that the section that Applicant refers to make the case that the prediction is 'load prediction', page 60, line 10, reads "Most of the existing efforts suffer from limitations such as:..., resource load is predictable". This is not evidence that 'prediction here is referring to 'load prediction', which is not the same as selection of a resource based on historical performance'.

Clearly, the term "resource load is predictable" means "load prediction", and the Examiner's interpretation that "prediction" is not referring to "load prediction" is unfounded and unsupported by the reference and by ordinary meanings of the terms."

Examiner respectfully disagrees. In regards to Examiner's alleged 'strange position' regarding the citation at page 60, line 10, Examiner would again like to clearly point out that this reference that Appellant is attempting to read as a disclosure regarding PROBE (the invention disclosed in Al-Theneyan), is again referring to OTHER SYSTEMS. The cited passage (page 60) states the following:

" Scheduling of user's required tasks is a very challenging issue in building a resource brokering environment and as a result most of the available resource brokering environments implement only minimal scheduling capabilities [17],[27],[66],[112]. **Most of the existing efforts suffer from limitations such as:**

- resources are dedicated;
- resources are of homogeneous types;
- resources do not fail;
- resource load is predictable;
- task is profiled and its resource usage is known in advance;
- task can be allocated on any resource; etc." (emphasis added).

This passage does not, therefore, state that, in PROBE, the resources are predictable. It actually says that this is an issue with OTHER SYSTEMS. Therefore, Appellant interpreting the reference, and interpreting the disclosed invention of PROBE, to use non-historical prediction based on this statement is incorrect. Further, it is unclear what Appellant is arguing in the above statement. If Appellant is arguing that "A1-Theneyan uses a prediction of load in their queuing mechanism", then, that is not correct, as shown above. If Appellant is arguing that one does not use historical information to make future predictions, Appellant has provided no evidence of that statement. Examiner notes that almost all forecasting and prediction is done using historical information. Appellant also argued that "Al-Theneyan does disclose some history records, but not relative to completion of jobs according to requirements, instead, relative to predicted computing loads" on page 17 of the Appeal Brief. Appellant then uses page 60, line 10 to support this assertion. Again, as shown above, this is not correct. Further, Appellant points to page 85, lines 25 – 27, to support Appellant's argument. Again, Appellant is pointing to a passage that makes reference to OTHER SYSTEMS. The cited passage (page 85) states the following:

"Most existing efforts focus on resolving this issue by making some assumptions that might restrict the usage of the underlying grid system. For example, in [105], all resources are assumed to be dedicated and their loads are predictable, and tasks are assumed to be profiled where resource usage can be estimated in advance, We believe such restrictions do not encourage either the resource provider or the resource consumer to use the underlying grid". (emphasis added).

Again, this passage does not state that, in PROBE, the resources are predictable. It actually says that this is an issue with OTHER SYSTEMS. Therefore, Appellant interpreting the

reference, and interpreting the disclosed invention of PROBE, to use non-historical prediction based on this statement is incorrect.

In regards to the statements on page 17 of the Appeal Brief:

“A1-Theneyan Pg. 70 last paragraph:
•.. The Scheduler Agent uses a queuing algorithm to select the next job to schedule A1-Theneyan Pg. 85 lines 1 -2:
•.. Scheduler Agent that in turns uses an underlying queuing algorithm to select the next job to schedule.”.

it is unclear what is being argued by Appellant. Pages 69 – 70 recite “Based on the underlying scheduling algorithm, the user’s job and the matched sub-set of resources provided by the Policy Enforcement Manager, the Scheduler Agent is going to construct a near optimal active schedule object and pass it on to the Allocation Agent”. The fact that the Scheduling Agent uses a queuing algorithm does not in any way read away from Appellant’s claimed invention.

In response to argument (D) in regards to the enablement of the A1-Theneyan reference, this is merely an allegation unsupported by evidence or fact. Further, **MPEP 2121 [R-6]** states:

Prior Art; General Level of Operability Required to Make a Prima Facie Case.

I. PRIOR ART IS PRESUMED TO BE OPERABLE/ENABLING

When the reference relied on expressly anticipates or makes obvious all of the elements of the claimed invention, the reference is presumed to be operable. Once such a reference is found, the burden is on applicant to provide facts rebutting the presumption of operability. *In re Sasse*, 629 F.2d 675, 207 USPQ 107 (CCPA 1980). See also MPEP § 716.07.

II. WHAT CONSTITUTES AN “ENABLING DISCLOSURE” DOES NOT DEPEND ON THE TYPE OF PRIOR ART THE DISCLOSURE IS CONTAINED IN

The level of disclosure required within a reference to make it an “enabling disclosure” is the same no matter what type of prior art is at issue. It does not matter whether the prior art reference is a U.S. patent, foreign patent, a printed publication or other. There is no basis in the statute (35 U.S.C. 102 or 103) for discriminating either in favor of or against prior art references on the basis of nationality. *In re Moreton*, 288 F.2d 708, 129 USPQ 227 (CCPA 1961).

III. EFFICACY IS NOT A REQUIREMENT FOR PRIOR ART ENABLING

A prior art reference provides an enabling disclosure and thus anticipates a claimed invention if the reference describes the claimed invention in sufficient detail to enable a person of ordinary skill in the art to carry out the claimed invention; “proof of efficacy is not required for a prior art reference to be enabling for purposes of anticipation.” *Impax Labs. Inc. v. Aventis Pharm. Inc.*, 468 F.3d 1366, 1383, 81 USPQ2d 1001, 1013 (Fed. Cir. 2006). See also MPEP § 2122.

2121.01 [R-3] Use of Prior Art in Rejections Where Operability Is in Question “In determining that quantum of prior art disclosure which is necessary to declare an applicant’s invention not novel’ or anticipated’ within section 102, the stated test is whether a reference contains an enabling disclosure’... .” *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) (At issue was whether a prior art reference enabled one of ordinary skill in the art to produce Elan’s claimed transgenic mouse without undue experimentation. Without a disclosure enabling one skilled in the art to produce a transgenic mouse without undue experimentation, the reference would not be applicable as prior art.). A reference contains an “enabling disclosure” if the public was in possession of the claimed invention before the date of invention. “Such possession is effected if one of ordinary skill in the art could have combined the publication’s description of the invention with his [or her] own knowledge to make the claimed invention.” *In re Donohue*, 766 F.2d 531, 226 USPQ 619 (Fed. Cir. 1985).

II. 35 U.S.C. 103 REJECTIONS AND USE OF INOPERATIVE PRIOR ART “Even if a reference discloses an inoperative device, it is prior art for all that it teaches.” *Beckman Instruments v. LKB Produkter AB*, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989). Therefore, “a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103.” *Symbol Techs. Inc. v. Opticon Inc.*, 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991).

Examiner further notes that in the Abstract of Al-Theneyan, it discloses "We have implemented a prototype of PROBE to demonstrate feasibility". See also at least pages 13, 15, 34, 44, 135 which disclose a PROBE prototype.

In further response to arguments (A) – (D), Appellant's arguments amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Further, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Appellant has failed to argue how the reference of Al-Theyenan in combination with the Official Notice of Old and Well Known facts fails to specifically point out the language of the claims nor how the claims are patentably distinguished from the references as combined.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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